UNITED
NATIONS

A

General Assembly

Distr.
GENERAL

A/CONF.151/PC/84
30 July 1991

Original: ENGLISH

PREPARATORY COMMITTEE FOR THE
UNITED NATIONS CONFERENCE ON
ENVIRONMENT AND DEVELOPMENT
Third session
Geneva, 12 August-4 September 1991
Plenary
Agenda item 2 (b)

PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS: RECENT ACTIONS OF INTERGOVERNMENTAL AND OTHER BODIES OF RELEVANCE TO THE PREPARATORY PROCESS

Note by the Secretariat

Input from the Asian and Pacific region to the United Nations Conference on Environment and Development, Brazil 1992

The Economic and Social Commission for Asia and the Pacific in its resolution 47/5 of 10 April 1991 endorsed the present Asian and Pacific input to the United Nations Conference on Environment and Development, including the regional strategy on environmentally sound and sustainable development, agreed upon by the Meeting of Senior Officials on Environment and Development in Asia and the Pacific, held at Bangkok from 13 to 19 February 1991. It is the contribution of the ESCAP region to the preparatory process for the United Nations Conference on Environment and Development and is submitted to the Preparatory Committee in accordance with General Assembly resolution 44/228.

GE.91-62119/3561B

A. Introduction

1. The General Assembly, in resolution 44/228 stressed the importance of holding regional conferences on environment and development with the full cooperation of the regional commissions. It also recommended that the results of such regional conferences should be introduced into the preparatory process for the 1992 United Nations Conference on Environment and Development, bearing in mind that regional conferences should make important substantive contributions to the Conference.

2. The present document is prepared in response to the above resolution to give a regional perspective to substantive inputs on the major issues identified in resolution 44/228, and points to issues of particular regional concern to help make the results of the 1992 Conference relevant to the region.

3. The Ministerial-level Conference on Environment and Development in Asia and the Pacific, held at Bangkok in October 1990, recognizing that substainability of Earth could not be achieved in parts isolated from one another, called upon ESCAP to prepare a document for the 1992 Conference that would reflect fully the regional aspirations, views and interests. It also decided that documents such as the report State of the Environment in Asia and the Pacific 1990 and the regional strategy for environmentally sound and sustainable development, which were the outcome of the Ministerial-level Conference, should also be made part of the regional report to the Conference.

4. The countries in the ESCAP region are committed to support all global actions aimed at environmental safeguard and promotion of environmentally sound and sustainable development. As members of the Economic and Social Commission for Asia and the Pacific, they have been instrumental in undertaking several initiatives towards this end, including:

(a) Preparation of the comprehensive state of the environment report for 1990 which brings out the status and trends of environmental problems in the region along with their root causes. An abstract of this report is presented as appendix 1, and the full report has been made available to the secretariat of the 1992 Conference.

(b) The convening of the Ministerial-level Conference on Environment and Development in Asia and the Pacific in October 1990 and the adoption at that Conference of a declaration which reflects the commitment of the countries towards achieving environmentally sound and sustainable development. It also identifies the specific areas of concern in which the cooperation of international communities are needed. The Ministerial Declaration adopted at the Conference is presented in appendix 2. The full report of the Ministerial-level Conference has been made available to the secretariat of the 1992 Conference, and has been issued as Conference document A/CONF.151/PC/38.

(c) Preparation of a regional strategy on environmentally sound and sustainable development, which provides a framework for action at the national, subregional, regional and global levels. This strategy has been worked out in detail during the Meeting of Senior Officials on Environment and Development in Asia and the Pacific and is attached as appendix 3.

(d) A number of non-governmental organization symposiums have been organized in the region, of which a particularly important one the NGO/Media Symposium on Communication for Environment was held in conjunction with the Ministerial-level Conference at Bangkok in October 1990. A major achievement of that Symposium was the formulation of the Universal Code of Environmental Conduct, outlining clearly the responsibilities of individuals towards the environment.

B. Issues for discussion at the 1992 Conference and regional concerns

5. All the environmental and developmental issues of global concern as listed in General Assembly resolution 44/228 are highly relevant to the ESCAP region, although the nature and extent of the problems vary because of the diversity in terms of physical and socio-economic characteristics among the countries in the region. However, for the purpose of the regional input to the preparatory process for the 1992 Conference, the countries of the ESCAP region will draw particular attention to the following issues:

Improvement of the living and working environment for the poor;

Protection of health conditions and improvement in the quality of life;

Protection of the atmosphere by combating climate change, depletion of the ozone layer and transboundary air pollution;

Protection and management of oceans and coastal areas, and rational use of marine living resources;

Protection and management of land resources by combating deforestation, desertification and land degradation;

Protection and supply of fresh-water resources;

Environmentally sound management of toxic chemicals and hazardous wastes;

Conservation of biological diversity.

6. Two of these issues, climate change and biological diversity, are the subject of an ongoing international negotiation process with the aim of adopting global legal instruments. Countries of the ESCAP region are adopting an active and positive approach in these negotiations, and have drawn attention to the desirability of the successful conclusion of these negotiations prior to the holding of the Conference in June 1992.

7. The countries feel that the need for poverty alleviation is most urgent. Environmental deterioration due to pervasive poverty is a matter of great concern in both rural and urban areas in the Asian and Pacific region. The World Development Report 1990 estimates that 800 million people in the ESCAP region are struggling to survive on less than a dollar per day. The interaction of poverty and environmental destruction sets off a downward spiral of ecological deterioration that threatens the physical security, economic well-being and health of many of the region's poorest people. The

problem of poverty is so enormous that developing countries of the region cannot solve it with domestic resources alone. Therefore, the financing of many initiatives for achieving poverty alleviation and improvement of the quality of the environment will have to come from external sources, particularly developed countries.

8. The quality of life and good health depend upon the quality of the environment. The number of people in the Asian and Pacific region whose basic needs are not met in terms of proper shelter, clean water, basic sanitation and adequate health and nutrition levels was never so large as it is today. Therefore, if environmentally sound and sustainable development is to have any meaning at all, it must relate to requirements for the survival of the poor in the Asian and Pacific region through meeting their basic needs.

9. The countries of the region are seriously concerned over the possible consequences of global warming and climate change, which could have a far-reaching impact on agriculture, the land ecosystem, rainfall patterns and atmospheric circulation, including cyclones and rise in sea level. Their adverse impact has to be mitigated and the root causes of climate change have to be addressed. In this context, the effects of climate change could greatly exceed the financial and technical capability of many developing counties to take appropriate action. Within the region, priority should also be assigned to: monitoring and data exchange in environmental conditions and trends; developing regional climate scenarios; securing adequate and additional funds; promoting technology transfer; and training of personnel. Cooperation also needs to be strengthened to assist the developing countries of the region in preparing and implementing national mitigation and response strategies.

10. The marine environment plays a vital role in the functioning of the biosphere. The largest part of the world's marine environment is in the Asian and Pacific region. Poverty, industrialization, trade and commerce, and marine pollution are affecting seriously both marine and coastal ecosystems. There are also indications that certain marine fishery harvests are already close to, or exceed, sustainable yields. Over and above this, the threat of inundation of several coastal and island countries due to a possible rise in sea level in the next century is of vital concern to these countries. Thus, the most important challenge with regard to the oceans is the establishment and strengthening of the environmental management systems of the marine areas and resources through international cooperation.

11. The impacts of deforestation and land degradation at the national, subregional, regional and global levels are well known and there is growing awareness of the significance of halting and reversing the trends in deforestation. Yet deforestation continues, in view of the fact that the causative factors are not easily eliminated. As long as poverty, increasing population and the concomitant demand for cropland and fuelwood, and the excessive demand for timber, persist, deforestation will continue. It is, therefore, necessary that further remedial and preventive measures towards the sustainable use of forest resources be undertaken on an urgent basis at all levels, including adequate, new and additional funding.

12. More than one third of the population in the ESCAP region still lack access to safe drinking water supplies. More than three quarters of the diseases in the developing countries of the ESCAP region are traceable directly to unsafe drinking water. Global initiatives are, therefore, imperative in this area to ensure the supply of potable water.

13. In the case of inland waters, the challenge is how to meet the increasing demand for water in a situation where there are ever-increasing threats to water quality.

14. The threats posed by toxic chemicals and hazardous wastes are increasing owing to both the practice of dumping of hazardous wastes and the indiscriminate use of toxic chemicals, which have added to the threats of these substances to the environment. Developing countries of the ESCAP region will remain vulnerable to toxic chemicals and hazardous wastes as long as their monitoring and control technologies are weak. It is, therefore, imperative to develop monitoring and control facilities through appropriate technology transfer and international cooperation.

15. In both land and marine ecosystems, the great loss of biodiversity is a matter of serious concern. The establishment and maintenance of protected areas and other ecosystems face the challenges of inadequate managerial skills, technology and issues of equity and social concern, such as the exclusion of the rural population from their traditional sources of fuelwood, food, grazing land and other resources. Appropriate action is therefore required to maintain and preserve existing stocks.

Appendix 1

STATE OF THE ENVIRONMENT IN ASIA AND THE PACIFIC 1990

Abstract

The report has three parts: environmental conditions and trends, national and regional responses, and policy context. Its conceptual framework is based on the paradigm that environmental conditions arise out of the interactions between natural and human ecosystems which, in turn, provoke national and regional responses and generate a policy milieu that guides action programmes.

I. Environmental condition and trends

The region covers almost half the Earth's surface, has 23 per cent of total land area, 31 per cent of agricultural lands, and 16 per cent of forested areas, of which 300 million hectares are closed tropical forest. The rapid loss of forest cover is possibly the most serious environmental threat with annual deforestation rates of 2 million hectares in the 1970s and 5 million hectares in the 1980s, according to latest FAO estimates. It is caused by expansion of croplands, shifting cultivation, commercial logging, fuelwood gathering and forest fires. While the annual rate of conversion to croplands has levelled off to one million hectares (from 4 million hectares during 1950-1976), about 30-80 million people are still involved in shifting cultivation affecting 75-120 million hectares of forest, and some 800 million people are dependent on fuelwood for their energy needs. Deforestation has been the primary cause for loss of wildlife. It is estimated that the region has lost 68 per cent of its original wildlife habitat and over 600 animal species and 5,000 plants are rare or threatened.

The most serious land degradation problems are soil erosion in deforestation areas and water logging and salinization in irrigated areas. Nearly 15 billion tons of sediments are carried annually by Asia's rivers compared to 1 and 2 billion tons in South and North America, respectively. Desertification affects more than 860 million hectares of land and an estimated 150 million people while about 487 million hectares are affected by soil salinization.

The region has over 170 million hectares of wetlands with only 15 per cent under adequate protection and nearly 50 per cent moderately or severely threatened. Mangroves, of which some 63 of a total of 90 species are in the region, cover nearly 8 million hectares or about a third of the world's total. Wetlands are under threats of conversion to other land uses, pollution, erosion, sedimentation, and unsustainable wood harvesting.

The region has the world's largest ocean, the Pacific (165 million sq km), and over two thirds of the world's coral reefs. Its total coastline is about 130,000 km. The overall ocean zone may be considered as comprising three regional seas: the South Asian seas, the East Asian seas, and the Pacific Islands seas. These seas support extremely productive fisheries amounting to 11 per cent of the total world catch and employing some 5 million people, and have a potential for producing annually between 38 to 43 million

tons of fish. Overall the ocean waters are still of good quality but the main problems are degradation of the coastal zones, nearshore pollution from industries and coastal communities, destructon of coral reefs, decline in nearshore fishing and threats to oceanic fishing.

The total internal renewable water resources is 13,000 cu km per year but per capita availability varies widely between countries. The largest user of water is agriculture (typically more than 75 per cent for irrigation), followed by industry and the public sector. Ground water resources are plentiful but excessive extraction has resulted in lowering of the water table, land subsidence and sea water infiltration. Surface water pollution stems mainly from domestic wastes, industrial effluents, mine tailings and agricultural run-offs.

The current population of the region is 2.9 billion, over 55 per cent of the world's population, and increasing at about 1.8 per cent per annum. Two-thirds live in the rural areas representing 72 per cent of the world's agricultural population on only 30 per cent of the world's arable land. Rural population grows at 1-2.5 per cent per annum. In the developing countries, rural poverty is a major cause of environmental degradation. Only 17 per cent of rural shelters meet the minimum desirable levels of acceptability. About 80 per cent of diseases in developing countries of the region are traceable to unsafe water and poor sanitation in rural areas. Rural household energy needs are met by locally available fuels including firewood charcoal, and crop and animal residues. Extensive use of agrochemicals, which doubled from 22 to nearly 46 million tons from 1977 to 1987, expose the rural population to health risks and cause long-term adverse environmental impacts.

The other aspect of the changing demographic profile is the rapid shift of population from rural to urban areas. Urban populations are growing at the rate of 3.5 per cent per annum. There are 18 megacities in 1985 and the number is projected to increase to 52 in 2025. This pattern of primacy generates spatial polarization, economic dualism, and social inequity, and has resulted in the proliferation of slums and marginal settlements. With few exceptions, most major cities suffer from air pollution, mainly in the form of suspended particulates (reaching 200-300 ug/cu m) and sulphur dioxide (reaching 200 micrograms/cubic meter). Urban areas consume the major portion of commercial energy with the trend indicating continued growth and a shift towards solid fuels. From 1978 to 1986, commercial primary energy consumption increased from about 1.4 to 1.8 billion tons of coal equivalent. Motor vehicles increased by 24 per cent from 82 to over 100 million from 1984 to 1988. The region's contribution to global carbon dioxide emissions increased from less that 0.4 to over one billion metric tons of carbon dioxide per year from 1965 to 1985. The growth of cities and rapid industrialization have also brought complex problems of solid waste management and the treatment and disposal of toxic and hazardous wastes.

II. National and regional responses

While the biophysical conditions of the environment have deteriorated, the socio-political setting has improved during recent years as evidenced by the growing influence of environmental institutions; proliferation of

environmental legislation and conventions; enhancement in environmental education, communication, and public awareness; improvement in environmental planning; and increasing application of environmental technologies.

At least 14 countries have ministries of the environment while others have central environmental agencies or environmental departments under other ministries. There are a number of subregional intergovernmental environment institutions, the most prominent of which are ASOEN in South East Asia, SACEP in South Asia, and SPREP in the Pacific. A variety of environmental legislations exist ranging from national environmental policies, pollution control laws to natural resources conservation and land management.

Almost all countries have included environmental education in the primary level and many offer tertiary level education in the environment or related field. The regions of print, electronic and folk media are also fairly active in promoting public awareness on environmental issues. One of the important initiatives in environmental communication is the Asian Forum of Environmental Journalists (AFEJ), whose formation was catalyzed by ESCAP in 1985.

Technologies for controlling air, water and land pollution and for managing the region's natural resource are finding increasing applications in the region. However, most countries have little or no sewage collection and treatment facilities. Except for a few developed countries using sanitary landfills, incineration, and/or composting, most countries use open dumps for disposal of solid wastes. A positive development is the use of satellite remote sensing and geographic information systems (GIS) for the management of natural resources. Similarly, initiatives are underway for the use of clean technologies, although recycling and utilization of agro-industrial wastes are already applied in some countries of the region. ESCAP and UNEP have published industrial pollution control guidelines and design manuals for several industries.

In many countries environmental issues are already incorporated in national economic development plans. At the regional/international level, United Nations bodies and agencies, development banks and other organizations are integrating environmental planning methodologies into their work programmes and assisting countries to do the same. Environmental impact assessment is gaining wide acceptance and many countries have laws requiring Environmental Impact Assessment (EIAs) for major development projects. A major problem is inadequate environmental database and monitoring.

III. Policy context

The demographic, economic and environmental trends for the region are: total population will significantly increase with a shift from rural to urban areas thereby reinforcing the primacy of megacities; economic growth will continue to vary throughout the region and income distribution is likely to continue to be uneven; energy consumption is expected to double by 2010 with a shift toward solid fuels; agricultural activity will intensify but food production per capita will decline; natural resources will continue to be depleted and overall environmental quality is expected to deteriorate; and

there will be health costs as a result of reduced environmental quality. Additionally, global problems of the greenhouse effect, ozone depletion, and loss of biodiversity will have serious implications for the region.

The environmental challenges for the region in the 1990s may be condensed within the rubric of environmentally sound and sustainable development (ESSD). To achieve ESSD, source-oriented and effect-oriented policies must be formulated and both long-term preventive and short-term curative measures must be implemented. These would involve focusing on the root causes of environmental degradation, reforming environmental administration, promoting environmental awareness and people's participation, using appropriate environmental technologies, strengthening environmental planning, and dealing with the negative effects of unsustainable development.

Appendix 2

MINISTERIAL DECLARATION ON ENVIRONMENTALLY SOUND AND SUSTAINABLE DEVELOPMENT IN ASIA AND THE PACIFIC

1. We, the Ministers of the ESCAP region, representing more than half of the global population, met at Bangkok from 15 to 16 October 1990 at the Ministerial-level Conference on Environment and Development in Asia and the Pacific;

2. Recalling resolution 267 (XLIV) of the United Nations Economic and Social Commission for Asia and the Pacific adopted at Jakarta in 1988 and the United Nations Development Programme Governing Council decision 90/20 adopted at its 38th meeting in 1990;

3. Recalling also the United Nations General Assembly resolution 44/228 on the United Nations Conference on Environment and Development, to be held in 1992, and recognizing the importance accorded to regional inputs to that Conference;

4. Deeply concerned about the threat to environmentally sound and sustainable development due to environmental degradation and the depletion of natural resources in the ESCAP region and other adverse conditions, as highlighted in the report on the state of the environment for Asia and the Pacific 1990, such as forest destruction, desertification, watershed degradation, soil erosion, waterlogging and salinization, flooding, destruction of mangroves and corals, loss of biological diversity and pollution of air and water, as well as the ozone layer depletion and the potential rise in the sea level and other expected impacts of climate change associated with the emission of greenhouse gases;

5. Reiterating that poverty, human health, population pressure and environmental degradation are closely interrelated and that environmental protection in the developing countries of the region must, in this context, be viewed as an integral part of the development process and cannot be considered in isolation from it;

6. Affirming that the major cause of the continuing deterioration of the global environment is the unsustainable pattern of production and consumption, particularly in industrialized countries, and that the responsibility for containing, reducing and eliminating environmental damage must be borne by the countries causing such damage and must be in relation to the damage caused and in accordance with their respective capabilities and responsibilities;

7. Recognizing the urgent need for all countries to intensify efforts to protect and improve the quality of the environment at national, subregional, regional and global levels, wherever relevant, by adopting an approach in which economic growth should be directed towards environmentally sound and sustainable development;

8. Recognizing further that the developing countries have specific concerns and needs which should be given special attention in any global effort for the protection of the environment;

9. Acknowledging the need to address the special environmental problems of small island developing countries of the region;

10. Stressing that the current international economic situation should be improved in order to remove obstacles hampering environmentally sound and sustainable development, particularly in the developing countries, with special attention to the least developed countries of the region;

11. Realizing that the majority of the developing countries in the region lack the necessary financial and other resources and technologies for them to participate effectively in the global and regional efforts for environmental protection;

12. Recognizing further the diverse economic conditions and consequently, the varying technological, financial and other capabilities of the countries in the region, and the opportunities arising therefrom for strengthening regional cooperation to achieve environmentally sound and sustainable development;

13. Reaffirming the objectives in the operative paragraphs 15 (j) and (m) of part I of the United Nations General Assembly resolution 44/228 on the need for new and additional financial resources and on favourable access to, and transfer of, environmentally sound technologies, in particular to the developing countries, for achieving environmentally sound and sustainable development;

We, the Ministers:

14. Commit ourselves to adopt an integrated approach to environment and development, and wherever possible and in accordance with our priorities and capabilities to incorporate environmental considerations into economic planning with a view to effecting the coordinated development of our economies and environment;

15. Believe that all economic and social development activities should meet the needs of the present generation without compromising the ability of future generations to meet their own needs;

16. Affirm the crucial importance of maintaining the proper balance between economic development, population growth, the rational use of natural resources and environmental protection;

17. Urge countries in the region to adopt effective and sound population policies and accompanying measures for that purpose;

18. Affirm that States have the sovereign right to exploit their own resources pursuant to their social, economic and environmental policies, ensuring that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction;

19. Believe that, to achieve sustainable development, policies must be based on the precautionary principle;

20. Affirm the important role of science and technology in economic development, environmental protection, promotion of human health and population planning, especially the popularization and wider use of related science and technologies, in particular in the rural areas in the developing countries, in achieving this goal;

21. Emphasize the need for all countries and relevant international agencies to intensify their cooperation to support and assist the developing countries of the region in such efforts;

22. Welcome and pledge our full support for the United Nations Conference on Environment and Development to be held in Brazil in 1992 and call for measures to ensure the full and active participation of ESCAP members and associate members in the preparatory process for the Conference, in particular the developing countries;

23. Recognize that adequate resources will be needed for the implementation of activities agreed to in this Declaration, and urge all donor Governments and agencies to make appropriate voluntary contributions so that actions indentified can be implemented;

24. Welcome the important ongoing work of ESCAP on the elaboration of a regional strategy on environmentally sound and sustainable development by taking into consideration existing subregional and national strategies and call for its early completion;

25. Request the ESCAP secretariat to convene meeting(s) of representatives of members and associate members of the Commission before the second meeting of the Preparatory Committee of the 1992 Conference to follow up our decisions, particularly to elaborate a regional strategy on environmentally sound and sustainable development and to continue preparation of the regional contribution to the United Nations Conference on Environment and Development;

26. Request also the Executive Secretary of ESCAP, in consultation with representatives from the relevant United Nations agencies and bodies, multilateral funding organizations and Governments to find ways and means to enhance the effectivenes of cooperation and coordination in the development and implementation of regional environment and development activities as envisaged by this Declaration;

27. Affirm the right of individuals and non-governmental organizations to be informed of environmental problems relevant to them, to have the necessary access to information, and to participate in the formulation and implementation of decisions likely to affect their environment;

28. Recommend the strengthening of the environment-related activities of non-governmental organizations, the promotion of public awareness and people's participation in environmental protection and management activities and in this context welcome all United Nations initiatives which seek to assist media, non-governmental organizations and community groups targeting the poor;

29. Reaffirm the necessity to promote environmental education, especially of the younger generations, as well as other measures to increase awareness of the value of the environment;

30. Welcome and encourage the efforts to establish research, training, policy and other institutes/centres dealing with environment and development activities, with a view to promoting exchange of information, technical assistance and regional cooperation for activities relevant to environmentally sound and sustainable development, and agree that ESCAP should play an important role in promoting the formulation of a regional network of such institutes/centres;

31. Welcome the participation of the Asia-Pacific UNDP regional resident representatives at this Conference which will enable them to better assist in the effective follow-up activities;

32. Further request the Executive Secretary of ESCAP to keep the progress of implementation of this Declaration under review and report to the annual sessions of the Commission.

Appendix 3

REGIONAL STRATEGY ON ENVIRONMENTALLY SOUND AND SUSTAINABLE DEVELOPMENT IN ASIA AND THE PACIFIC

INTRODUCTION

1. At the Ministerial-level Conference on Environmentally Sound and Sustainable Development in Asia and the Pacific, held at Bangkok on 15 and 16 October 1990, the Ministers expressed deep concern over the environmental degradation and depletion of natural resources in the region. The Ministers recognized the urgent need to intensify the efforts towards the protection and improvement of environmental quality at both national and international levels, by adopting an approach in which economic growth should be directed towards environmentally sound and sustainable development. In the Ministerial Declaration on Environmentally Sound and Sustainable Development in Asia and the Pacific adopted at the Conference, the Ministers welcomed the work on elaboration of a regional strategy for that purpose and called for its early completion.

2. The regional strategy on environmentally sound and sustainable development has been evolved in pursuance of the decision taken at the Ministerial-level Conference and in response to Commission resolution 267 (XLIV) of 20 April 1988. The strategy has been developed on the basis of discussions at various levels, including the Meeting of Senior Officials on Environment and Development in Asia and the Pacific and the Ministerial-level Conference, and should be read in conjunction with the Ministerial Declaration and relevant United Nations resolutions. This exercise is in unison with the ongoing efforts at the global level and the collective endeavour of adopting regional strategies by the countries in other regions.

3. The strategy has been formulated to respond to the State of the Environment Report in Asia and the Pacific 1990 which details the present status and trends in the environmental conditions vis-à-vis policy initiatives taken by various countries in the ESCAP region.

4. While evolving the strategy, it has been recognized that the countries in the region represent wide diversity in terms of physiographic, economic and cultural characteristics. Therefore, it is not feasible to recommend a set of uniform prescriptions for achieving environmentally sound and sustainable development. Nevertheless, there are issues of common concern in the strategy and its components, which are generally applicable to all countries of the region. Depending on the country-specific conditions, however, the priorities may differ.

5. The strategy is intended to give expression to the concern and commitment of the countries in the ESCAP region to adopt such approaches as are required to achieve the goal of environmentally sound and sustainable development. Through this strategy, an attempt has been made to project a common vision and to integrate the collective experience and insights of member countries with regard to environment and development.

6. The strategy, inter alia, outlines some of the priority areas in terms of policy imperatives, strategic directions and action points at the national and regional levels. It is a framework for facilitating the preparation of regional, subregional and national programmes. At the same time, it recognizes the sovereign rights and responsibilities of States pertaining to environmental and developmental issues, as elaborated in the relevant General Assembly resolutions, in particular resolution 44/228, and in paragraph 18 of the Ministerial Declaration.

7. While the strategy emphasizes environmental problems which are common to the countries of the region, it recognizes that problems of a global nature (such as depletion of the ozone layer, climate change and loss of biodiversity) also need to be considered at the regional level.

8. The framework of the strategy will be flexible and open for policy and programme planning to accommodate global consensus which will emerge through relevant events, such as the 1992 United Nations Conference on Environment and Development. Similarly, it will have in-built options for modification in accordance with evolving environmental and natural resource conditions, including possible new threats as well as opportunities, and the development of innovations which can help to achieve the desired solutions at both the regional and global levels. The strategy aims to support the ongoing activities of countries of the region and of regional and subregional organizations in the identification of the priority action and implementation of environmentally sound and sustainable development, particularly in preparation for the 1992 Conference.

I. OBJECTIVES

9. The basic purpose of the stretegy is to ensure environmentally sound and sustainable development for survival and for improvement in the quality of life for the population of the region. To this end, the aim of the strategy is to pursue development activities, in recognition of the fact that poverty and environmental degradation are closely interrelated and that environmental protection must be viewed as an integral component of the development process. The objectives of the strategy include the following:

(a) To foster economic growth and meet basic human needs through environmentally sound and sustainable development;

(b) To secure the integration of environmental considerations into development programmes and activities;

(c) To provide a broad framework of priorities and action, including the setting of time-frames at the national, regional and global levels, where appropriate.

II. A STRATEGY FOR ACHIEVING ENVIRONMENTALLY SOUND AND SUSTAINABLE DEVELOPMENT

10. The strategy outlines a broad framework of priorities and action points in selected areas. Some of these pertain to specific sectors, while others are cross-sectoral. The selected areas for action are based on the

identified causes of environmental degradation (see annexes I.A. and I.B) and these include the following (not listed in any particular order of priority):

Population and human settlements
Poverty, rural development and agriculture
Natural resources and energy
Trade, investment and tourism
Industry

The supporting measures needed for implementation of the strategy have also been outlined, and include:

Institutional and administrative measures, including economic instruments
Legislation, conventions and treaties
Environmental education, communication and public awareness
Development and transfer of environmentally sound technology.

11. The recommendations in the following sections provide an inventory of action for implementation at the national, regional and global levels. Countries will, as appropriate, take steps in accordance with national development objectives, priorities and plans and call upon regional and international organizations to provide active support to their efforts.

Population and human settlements

(1) Population issues to be integrated with national development policies and planning for meeting the basic human needs, and improvement in the quality of living conditions. Sustainable lifestyles and population size to be pursued through national goals. Regional cooperation in support of national efforts for population stabilization to be enhanced.

(2) Family planning and welfare services to be considerably strengthened in the 1990s.

(3) Information and education programmes to be improved and strengthened for increasing awareness about the global, national and local significance of population issues related to sustainable development.

(4) National policies to give special emphasis to the economic and social advancement of women, and their health and education.

(5) Measures to ensure that population distribution and mobility receive priority consideration to limit excessive growth of cities; steps for encouraging the growth of intermediate and smaller cities by providing incentives for entrepreneurial and industrial activity; sufficient employment prospects for labour to facilitate and encourage migration to such areas.

(6) Priority to investment in physical and social infrastructure, to the promotion of appropriate industries and other economic activities in rural areas, and to the ecological restoration of rural areas.

(7) Investments in urban infrastructure such as water supply, sewerage, pollution control facilities and urban clean-up, to be increased for providing a healthy living environment.

Poverty, rural development and agriculture

(8) Development policies to be oriented towards employment generation for the poor and for meeting their basic needs and investment decisions to favour development of physical and social infrastructure for the vulnerable sections of the society with particular emphasis on basic requirements such as safe drinking water, drainage and sanitation facilities.

(9) Programmes to extend health, nutrition, education and housing so as to provide a life of dignity in a healthy environment for all.

(10) Programmes to focus on enterprise development in the informal sector, including cottage industries based on local skills.

(11) Measures pertaining to land tenure systems and land reforms as a step towards achieving equitable access to natural resources and security of tenure; and measures to tackle soil degradation, desertification and forest destruction.

(12) Land-use planning and regulations based on land suitability, land capabilities and carrying capacities for community needs and other purposes.

(13) In rural areas, the village institutions to be encouraged to ensure sustainable practices through opportunities for their participation in planning, implementing and evaluating projects and activities.

(14) Traditional sustainable agricultural practices and resource management to be encouraged, where appropriate.

(15) Marginal farmers and landless labourers to be provided opportunities for increasing their income through environmentally sound schemes, such as restoration of degraded lands and afforestation; and by allowing them to manage these resources. To generate employment potential, and also to encourage value-added processing of primary produce; suitable agro-industries to be developed subject to considerations of food security.

(16) Incentives to farmers for adopting environmentally sound farming technologies and practices, such as organic farming and other practices, through appropriate programmes and means (cooperative or rural credit schemes) for access to seeds, organic fertilizer and irrigation facilities.

(17) Adoption of integrated pest management and training in the safe use of pesticides, while hazardous pesticides are to be phased out as far as possible.

(18) Steps to promote environmentally compatible technologies for increasing productivity, effective biological pest control, and biologically activated approaches to plant nutrition, with special emphasis on such nutrients as nitrogen and phosphorous.

(19) Regional cooperation to be enhanced for providing adequate financial and technical assistance to national efforts for poverty alleviation.

Natural resources and energy

(20) Introduction of resource accounting which shows quantifiable linkage between changes in the economy and changes in the environment.

(21) Review of the implications of the present value accounting methods so as to develop new processes for assessing both present and future valuations of environmental quality, and of natural resources, so that valuations are compatible with the concept of environmentally sound and sustainable development.

(22) Pricing of natural resources and energy so that in addition to extraction and processing costs, environmental and social costs are also taken into account.

(23) Promotion of community-based programmes and community values for management of natural resources.

(24) Steps to protect biodiversity as resources be valued as to national assets. Countries of this region will work towards conservation, rehabilitation and restoration of tropical rain forests, including participation in the Tropical Forestry Action Plan (TFAP).

(25) The boreal, temperate, subtropical and tropical forests in the region should be protected and sustainably managed within a broad socio-economic context to ensure sustainable benefits and in compatibility with environmental stability and ecological balance.

(26) Countries in the region, and particularly those that have undergone extensive deforestation, to draw up national forestry action plans aimed at substantially increasing the current extent of forest cover.

(27) Ecologically unsustainable harvesting of living marine and coastal resources to be banned, and special protection of mangroves to be promoted.

(28) Frugal and efficient use of freshwater (surface and groundwater) resources to be pursued through an integrated approach to water management including prevention and control of pollution.

(29) Special attention to be given to the implementation of integrated village energy systems (fuelwood plantations, biogas systems, etc.) and the use of more fuel-efficient stoves. Where feasible, mini-hydro, wind, solar systems, should be established. Energy self-reliance for rural villages should be a high priority in the 1990s.

(30) Regional and international cooperation in energy issues should be strengthened. Special emphasis is to be placed on creating alternative energy sources in areas where fuelwood constitutes a substantial part of energy demand.

(31) Research and development programmes to be strengthened to increase the efficiency of thermal electricity generating plants and of the energy transmission systems.

(32) Switching to cleaner fuels and technologies to be encouraged, based on existing energy consumption patterns, and implemented within a reasonable time-frame without hampering economic development and lowering living standards of the people. Adequate control measures to be provided to minimize environmental pollution. Research and development, and technology transfer in this regard to be given high priority.

(33) The development of clean and renewable sources of energy should be vigorously promoted by increasing investment in research and development and reducing, to the extent possible, subsidies for non-renewable energy sources.

(34) Energy conservation and the use of energy-efficient processes and equipment to be promoted by appropriate pricing mechanisms, setting efficiency standards, promoting technology transfer and providing information to consumers. A major part of new investment in the next 10 years in this area should be in demand management. To the extent possible, the new products should be evaluated for their energy efficiency and labelled accordingly, in order to permit consumer participation in the process of increasing energy efficiency and conservation.

Trade, investment and tourism

(35) International trade and investment policies to be reviewed for ensuring their compatibility with sustainable development.

(36) Trade and investment policies to encourage local processing of raw materials and export of value-added products for reducing excessive exploitation of natural resources and for increasing export earnings; proper pricing of commodities and support for the local processing of raw materials.

(37) Major investment projects, including foreign investments, to be assessed not only for their short- and medium-term environmental impact but also for their long-term impact on the sustainability of the natural resource base.

(38) Promotion of international cooperation and exchange of information to discourage trade in environmentally unsound technology; building up of capabilities and networking of institutions for technology transfer and exchange of information.

(39) Tourism to be promoted without causing adverse effects on the local culture and traditions. Necessary steps also to be taken to ensure compatibility between tourism and conservation of the natural environment and heritage sites.

Industry

(40) Efforts to promote industries and products that contribute towards environmentally sound and sustainable development, and to discourage industries and products that do not.

(41) Use of low- and non-waste technologies (clean technologies), including resource recovery, recycling and reuse, to be promoted. Appropriate pollution control facilities which meet the environmental standards to be utilized and where necessary developed.

(42) The "polluter pays" principle to be applied as widely as possible.

(43) Special emphasis to be given to the pollution control problems associated with small and medium-scale industries. Integrated technological, financial and innovative approaches to solving the pollution problems of these industries to be explored, including the possibility of common treatment facilities or relocation into industrial estates.

(44) Proper management and monitoring programmes to be established for management of toxic and hazardous substances and wastes, particularly their movement across national boundaries.

(45) National and international programmes for prevention of industrial accidents and associated environmental problems be developed and implemented through proper risk assessment, preventive maintenance in material handling procedures and process control, safety measures and emergency plans supported by environmental restoration funds.

Supporting measures

Institutional and administrative measures

(46) Economic policies and investment decisions in various sectors to take account of their effect on the environment and natural resources.

(47) State of the environment reports and action plans on environmentally sound and sustainable development at the national and regional levels for addressing the following:

(a) Environment and development problems of major concern;

(b) Alternative approaches and future options for the amelioration of these problems; and

(c) Responses and initiatives.

(48) Upon request, concerned United Nations bodies, regional and subregional organizations and multilateral funding agencies should actively support the development and implementation of action-oriented programmes and projects identified in the action plans of the countries.

(49) Environmental parameters to be integrated into national economic policies, planning, budgetary and development processes through the creation of the adequate institutional infrastructure and the adoption of appropriate mechanisms. This should include enhancement of the role of environment agencies in the formulation of economic policies, establishment of appropriate environmental monitoring systems and use of instruments of environmental planning, such as environmental impact assessment, risk management and natural resource accounting. All relevant sectoral institutions to be made accountable for evaluating environmental effects of their policies and programmes.

(50) Environmental agencies and other relevant institutions to be strengthened to ensure the effective implementation of applicable environmental laws and regulations.

(51) More authority to be given to local governments and their management and financial capabilities in relation to fostering environmentally sound and sustainable development to be strengthened.

(52) More extensive and coordinated use of economic instruments, including fiscal incentives, could be explored in order to increase the efficiency of environmental protection and to generate revenues for environmental improvement programmes. Mechanisms could be established to ensure that the long-term social costs of depletion of natural resources are reflected in the price of goods and services.

(53) National and regional environmental agencies and others promoting the adoption of environmentally sound and sustainable development will:

(a) Develop joint programmes with non-governmental organizations seeking similar ends; and

(b) Encourage professional associations, industry, non-governmental organizations and other organizations to become important players in the promotion of environmentally sound and sustainable development.

(54) Regional and subregional organizations concerned with the environment and development to be strengthened, particularly with respect to their capabilities to implement projects and activities for supporting national activities aimed at environment-development integration and resource conservation.

(55) International environment and development agencies should develop and adopt methodologies for environmentally sound and sustainable development. They should also develop a strong network of information systems on environment and development.

(56) Performance criteria and indices for the achievement of environmentally sound and sustainable development should be developed through the cooperative efforts of relevant international organizations and countries in the region.

Legislation, conventions and treaties

(57) Environmental legislation and environmental standards to be reviewed, where necessary, to ensure their effectiveness. Appropriate action should be taken to facilitate technical assistance to the developing countries of the region in formulating environmental legislation and standards.

(58) Sectoral legislation, and the mandate of sectoral institutions, to be examined with the purpose of developing adequate provisions aimed at attacking the root causes of environmental degradation and unsustainable development.

(59) Individuals, groups or organizations affected or likely to be affected by any project or programme should have access to relevant administrative and judicial procedures.

(60) To promote regional and international cooperation, countries of the region may:

(a) Consider signing and ratifying existing relevant environmental conventions and protocols and taking active part in their effective implementation and further development;

(b) Consider the need to develop regional or subregional agreements on environment and development problems, if appropriate, in particular related to:

(i) Procedures for notification and cooperation in the case of accidental pollution which may significantly affect the environment of neighbouring countries;

(ii) Environmental impact assessment procedures for projects which may have significant environmental effects in neighbouring countries, including international information and consultation procedures for such projects;

(iii) The protection and use of transboundary inland watercourses and international lakes;

(iv) Transboundary traffic in hazardous substances and wastes, including the safe handling and disposal of such wastes; and

(v) Protection of regional seas.

(61) Countries of the region will take an active part in the work on a framework convention on climate change and the development of related instruments as may be agreed upon and support the work of the Intergovernmental Panel on Climate Change (IPCC). The countries will also support the development of a convention on protection of biodiversity.

Environmental education, communication and public awareness

(62) Environmental education to be introduced in school curricula at all levels. This should include the promotion of a caring attitude and commitment to the planet, as well as directly increasing awareness and understanding of environmental issues. Education should, among others, also promote understanding of the concepts of environmentally sound and sustainable development and an ecologically sustainable world, as well as inter-generational equity.

(63) Environmental awareness and environmentally responsible behaviour in all segments of society to be promoted.

(64) The media to be encouraged to promote environmentally sound and sustainable development, and to disseminate information on practical ways in which it can be incorporated in day-to-day activities.

(65) Efforts to promote cooperation between government agencies, non-governmental organizations and the private sector, such as industries, for implementation of environmental standards.

(66) Information and data relating to environmental quality to be publicly available.

(67) Procedures to be developed for prior assessment and reporting to the public of the environmental impacts and risks before approving policies, programmes or projects. Ways and means should be developed to promote public participation in decision-making and implementation processes.

(68) New processes to be designed at the local level, incorporating traditional knowledge, cultural and community values. Emphasis should be placed on the gathering, collection and dissemination of traditional knowledge. Particular emphasis should be made in improving women's participation.

Development and transfer of environmentally sound technology

(69) Reaffirm the objectives in General Assembly resolution 44/228, section I, subparagraphs 15 (j) and (m) on the need for new and additional financial resources and on favourable access to and transfer of environmentally sound technologies, in particular to the developing countries, for achieving environmentally sound and sustainable development.

(70) Transfer of environmentally sound technologies to be furthered to enhance the capabilities of countries for achieving environmentally sound and sustainable development. Establishment and networking of centres specializing in such technology transfer should be pursued. ESCAP should play a leading role to furnish the networking of the centres.

(71) Countries to support each other in efforts to create and develop their indigenous technological capacities in scientific research and development in the field of environmentally sound technologies.

III. IMPLEMENTATION OF THE STRATEGY

12. The strategy provides a broad framework of priorities and actions at the national, subregional, regional and global levels, with recommendations for action to be taken by Governments and international organizations as well as by citizens and private enterprises.

13. The majority of the developing countries in the region lack the necessary financial and other resources and technologies to enable them to participate effectively in the global, regional and subregional efforts for environmental protection. In this context, the objectives in subparagraphs 15 (j) and (m) of section I of General Assembly resolution 44/228 on the need for new and additional financial resources and on favourable access to, and transfer of, environmentally sound technologies, in particular to the developing countries, for achieving environmentally sound and sustainable development, are reaffirmed.

14. While all segments of the society will have an important role to play in transforming the strategy into action, ESCAP will work to facilitate consultation and coordination among the relevant United Nations organizations and bodies, multilateral funding agencies and Governments in identifying, developing and implementing their respective environment and development activities which will contribute towards implementation of the strategy. In this process of consultation and coordination, ESCAP may consider exploring the feasibility of establishing a regional funding mechanism for the implementation of national, regional and subregional programmes and projects for environmentally sound and sustainable development.

15. The Executive Secretary of ESCAP should keep the progress of implementation of the Ministerial Declaration on Environmentally Sound and Sustainable Development in Asia and the Pacific, and the regional strategy under review and report to the Commission at its annual sessions. ESCAP should also develop the appropriate monitoring and evaluation methods and mechanisms for this purpose.

Annex. I.A

ENVIRONMENTAL PROBLEMS IN THE REGION: STATUS AND TRENDS

1. The report State of the Environment in Asia and the Pacific 1990 identifies three types of critical environmental problems in the Asian and Pacific region:

(a) Land degradation and destruction of natural resources. These include deforestation, soil erosion, soil fertility loss, waterlogging, salinization and toxification of soils, loss of biological diversity, damage to and destruction of coral reefs, mangroves, fisheries and other coastal and marine resources, and excessive extraction and associated problems relating to underground reservoirs of fresh water.

(b) Unsustainable environment in villages/human settlements. Unsustainable village environments caused by inadequate or inappropriate shelter, lack of water supplies, poor sanitation, shortage of cooking fuel, poor nutrition, excessive use of agro-chemicals, and habitation of environmentally fragile and hazard-prone areas.

(c) Pollution, including pollution of ambient air in cities, household air in villages; pollution of lakes, rivers, underground reservoirs and marine water, with detrimental effects on mangroves; coral reefs; toxic and nuclear waste dumping and environmental hazards emanating from energy-related activities.

The report also reveals the major predicted implications of the greenhouse effect and rise in sea level for subregions in Asia and the Pacific, such as more frequent storms, flooding, coastal erosion, negative effects on fresh water supply, changes in agriculture yields, loss of biodiversity, and possibly loss of entire low-lying islands.

2. Referring to environmental trends, the report states:

(a) In the 10 years from 1976 to 1986, 1.8 million hectares of the region's closed forest cover were lost annually. At that rate, about 18 million ha, or about 6 per cent of the region's total closed forest, would be lost by the year 2000. (According to the latest information available from FAO, during the period 1986-1990 the rate of deforestation increased to 4.7 million ha per year.)

(b) Over 15 billion tons of sediment from soil are being carried annually by Asian rivers, compared with less than 2 billion tons by North American rivers and 1 billion tons by South American rivers.

(c) Desertification affects more than 860 million ha of land. In the human dimension, it directly affected 150 million people in the region, that is, half of the world population affected by the problem.

(d) The denudation of the rainforests in particular poses a major threat to the region's biodiversity.

(e) Over-exploitation of ground water has already caused such problems as production losses, land subsidence, salt-water intrusion and ground-water pollution in over one third of the countries of the ESCAP region.

(f) Few countries of the ESCAP region can meet the WHO standard for safe drinking water, which calls for 95 per cent of the samples to be free from faecal coliform bacteria.

(g) Eighty per cent of diseases are traceable directly to unsafe water and poor sanitation. Diarrhoeal diseases kill over 1.5 million children every year, or three children every minute, in just seven countries of the region.

(h) Eighty per cent of the wetlands in most countries of the region are under moderate or severe environmental threat.

(i) 1.2 million ha of mangroves in the region have already been lost to aquaculture ponds.

(j) High-value fisheries, such as shrimps and prawns, have declined owing to over-exploitation in recent years.

(k) The incidence of algal blooms, red tides and contamination of sea food has increased.

(l) The trend towards encroachment of prime agricultural land by human settlements has increased. The projected rates vary from 180 to 2,900 ha per year, depending on the nature of the city concerned.

(m) The number of mega-cities (over 4 million people) increased fourfold between 1950 and 1990.

(n) The use of solid (dirty) fuel increased from 620 million tons in 1978 to 850 million tons in 1986 - an increase of about 37 per cent in eight years.

(o) Industrial emission of carbon dioxide in the region increased from 94 mill.

(p) Agricultural land per capita (agricultural population) declined from 0.29 ha in 1977 to 0.27 ha in 1987.

(q) The use of agro-chemicals has increased substantially. Fertilizer use increased in the region, from 22 million tons in 1977 to 46 million tons in 1987. Pesticide consumption is growing at the rate of 5-7 per cent per annum. Where examined, pesticide and toxic chemical concentrations in human bodies have been found to have increased.

(r) Four out of every 10 people in rural areas of developing countries of the ESCAP region (excluding China) are still without access to safe drinking water.

(s) Irrigation projects have enhanced the vulnerability to schistosomiasis. Over 25 million people in the region have been infected by the disease.

(t) Rural women in the household environment are exposed to almost 5,000 ppm of suspended particulate matter in some countries of the ESCAP region, whereas the maximum limit allowed for the occupational environment is only 290 ppm.

(u) Over 700 million people in rural areas of the ESCAP region could meet their energy needs only by depleting wood reserves in the early 1980s. By the year 2000, the number is likely to increase to 1.4 billion.

3. These statistics and facts represent a real loss of productive assets and deterioration of ecosystems, and the trends imply that in the absence of appropriate action the potential loss and damage will be enormous and unmanageable.

4. The trends cited above contrast sharply with those of economic growth. During the 1980s, the Asian and Pacific region recorded a growth rate much higher than those of other regions of the world. The average rates of economic growth for developing countries of the ESCAP region were even more dramatic. The picture that emerges from the two contrasting sets of parameters is that the rapid economic growth often took place at enormous cost to the environment. Much of the economic development of the region during the 1980s was underpinned by a transfer of natural capital to man-made capital, expansion of food production at the expense of land quality, improvement in industrial production and access to consumer products at the expense of environmental quality, and high national growth rates under conditions of hign debt burdens which necessitated short-term return on investment to finance debt. That this assessment holds true for the Asian and Pacific region is apparent from the fact that virtually all indicators of the state of the environment in the region had turned sharply downward by the end of the 1980s, while debt levels had risen drastically, and equity between rich and poor had failed to improve significantly.

Annex I.B

CAUSES OF ENVIRONMENTAL DEGRADATION

A. Population growth and distribution

1. The current population of the Asian and Pacific region is 2.9 billion, which is more than 55 per cent of the world's total population. The population density is 93 persons per square kilometre, compared with an average of 82 persons for the developing countries, and 24 persons per square kilometre for the world as a whole.

2. The total population in 1960 was only 1.49 billion. By 1990, in a 30-year period, it had doubled to about 3.0 billion. It is now growing at the rate of 1.8 per cent per year, which means that it will double again in the next 39 years. this phenomenal growth in population is greatly increasing the demand on the region's diminishing resource base and, if not checked, could ultimately threaten the very ecosystems on which human survival and economic development depend.

3. Poverty, lack of employment opportunities and environmental degradation in rural areas combine to increase out-migration from rural areas. Up to now, this out-migration has been mainly to urban areas in the same country. However, it is increasingly becoming regional in character. Migrants driven by lack of economic opportunity are now also being joined by increasing numbers of ecological migrants who are driven from rural areas by loss of ecological productivity. Migration is therefore a symptom of the inability of rural areas to support people, in both an economic and an ecological sense.

4. Rural-urban migration is fuelling the explosive growth of cities. Urban population in the ESCAP region increased from 360 million in 1960 to almost 860 million in 1990 and, if the present pattern continues, it is expected to soar to 1.2 billion by the year 2000. The problem arising with rapid urbanization is population growth outpacing infrastructural facilities and environmental amenities. This results in the growth of urban slum and squatter settlements, overburdening the water supply and sewerage and garbage disposal, in the loss of green spaces and in degradation of the air and water quality.

B. Poverty and underdevelopment

5. Eight hundred million people in the ESCAP region are living below the poverty line. Environmental degradation due to pervasive poverty is a matter of great concern for both the rural and the urban areas in developing countries of the ESCAP region. In rural areas, poor men and women, driven by forces beyond their understanding or control, clear steeper and steeper hillsides for cultivation, overstock and overgraze, cut down the last few trees, shorten the fallow period and, when ecosystem productivity diminishes drastically, migrate in large numbers to cities, increasing the pressure on the urban environment.

6. The region's environmental degradation problems arising from poverty are compounded by the root causes of poverty itself. The most important of these are inadequate property rights, especially those relating to land tenure and inadequate security of access to land, inadequate access to education and health facilities, and to credit, capital and technology for agricultural production, resource conservation and development of crafts.

C. Unsustainable development

7. Like underdevelopment, development which is unsustainable (inappropriate) is also causing deterioration of the environment in the ESCAP region. In their efforts to expand their economy to attain fast growth and to meet the increasing demands of rapidly growing population, countries of the ESCAP region are ignoring the path of sustainability and venturing into an arena which is environmentally damaging. The problem is visible in almost every sector of the economy.

1. Agriculture

8. The requirement to expand both cash and food crop production in developing countries of the region is encouraging abandonment of the traditional cropping system in favour of energy-intensive monoculture, dependent on increased imports. Irrigation expansion translates into increased waterlogging and salinity. Agricultural chemical residues pollute ground and surface waters, while soil fertility and natural pest resistance decline. Soil erosion and the consequent nutrient losses further degrade the resource base. This process is aggravated by inequity in access to resources and technologies, such as the green revolution technologies suitable for richer farmers. As these farmers prosper, small farmers are pauperized and driven to landlessness and eventually to already overcrowded urban areas or marginal lands that should never be cultivated; except possibly with long rotation periods.

9. This cycle of planting more cash crops, importing more technology and energy, and planting yet more cash crops by clearing more forests and displacing more farmers, as commodity prices fall and import prices rise, seems unending. The hope is to break out of the cycle by industrialization; but industrialization, where it has occurred in the developing ESCAP region, has followed a pattern of massive and perhaps irreversible damage to the natural resource base.

2. Industry

10. A significant part of the fast economic growth in the region is achieved through industrialization. Many of the industries contributing to this growth are resource-based. A large number of small- and medium-scale industries have proliferated, mostly in and near urban areas. While industrialization has brought some measure of economic prosperity to the region, it has also resulted in natural resource depletion, air, water and noise pollution and accumulation of toxic and hazardous wastes, and increased the incidence of disastrous accidents. In most developing countries of the region,

industrialization has ignored technology planning that would emphasize low or no waste, high efficiency of resource use, high labour-capital ratio, and the use of indigenous knowledge and skills.

11. New industries emerging in the developing countries of the ESCAP region are in many instances decades old in terms of technology. There is, moreover, little research being undertaken on low- or no-waste technology or on population control. There is little concept of the "polluter pays" principle as the social and environmental costs of pollution are passed on to others, often to future generations. Because there is little monitoring of air or water quality, food contamination, or toxic build-up in human bodies, and because there are very few epidemiological studies of pollution and human health in developing countries, quantifiable statements about the impact of uncontrolled pollution are impossible to make. What is known, however, is that where the matter has been examined, it has been found that food has been contaminated to dangerous levels, fish kills have occurred frequently, dissolved oxygen levels in rivers have fallen to zero or near zero, air pollution has exceeded WHO-recommended levels by startling amounts, and toxic contamination has reached drinking water aquifers, all of which have a tremendous impact on the health of the people of the region, who are already suffering from malnutrition and infectious diseases.

3. Natural resources and energy

12. Inefficient and reckless exploitation of natural resources is another basic cause of environmental degradation. It is apparent in the cases of both renewable natural resources, such as water and forests, and non-renewable resources such as fossil fuels and minerals. It becomes particularly important in the case of non-renewable resources.

13. Inefficiency is a fundamental issue when it comes to land degradation. Waterlogging and salinity are caused in the first instance by inefficiency in water use, leading to a rise in the water table. Pesticide applications are notoriously inefficient. Developing country energy use in the rural environment is high but so inefficient that poverty, not development, is the result. Fuel is burned very wastefully, water for irrigation is used inefficiently, and soil nutrients, rather than being guarded carefully as the basis of wealth, are wasted by soil erosion, non-optimal application of chemical fertilizer, and waste of manure and other soil-enrichment materials. The problem of inefficiency is deep-seated at all levels, although the poor would have the greatest incentive to do something about it, given access to resources and technology. Therefore greater stress should be laid upon equity in access to resources.

14. Inefficient use of energy, water and materials in industrial processes in developing countries is also common, and translates directly into increasing wastes and pollution. A serious dimension of the energy-environment issue is the increase in energy use coupled with a shift towards low-quality and low-cost solid fuels. This is particularly worrying because it indicates a likely increase in greenhouse gases and a rise in the amount of atmospheric pollution generated per unit of energy consumed.

4. Trade, investment and tourism

15. The greatest environmental problem of developing countries of the Asian and Pacific region is primary-sector resource over-exploitation to supply the global demand for such resources. As the terms of trade shift further and further to the disadvantage of developing countries, and as the debt crisis forces less rational decisions from desperate Government, the pressure increases to exploit resources such as tropical forests with little or no thought for the future. Export crops are produced at the expense of forests, food crops or livestock. As subsistence farmers are displaced, they press upon marginal lands with their crops and livestock, thus causing even more deforestation and desertification. Within the issue of deforestation, the question of the future of regional tropical forests has become critical even at the global level.

16. A number of trade policies implemented by both the industrialized countries and the region's developing countries act to discourage local processing of raw material. This forms a serious barrier to sustainable development because it makes the region's exports highly raw-material-oriented. In addition, the vertical integration of some industries often means that the processing, manufacturing and marketing of the resources are concentrated in the hands of large firms. If these firms are foreign owned, most of the value added may accrue to them and contribute very little to the national GDP (gross domestic product).

17. Another environmentally destructive aspect of trade and investment is the phenomenon of "dumping". Dumping covers the export of "failures" of technologies, industries, chemicals and wastes that are unprofitable or environmentally unsound in the countries of origin and must therefore be thrown away or dumped wherever possible, meaning wherever the political climate is such that the polluter escapes having to pay. Chemicals, including many pesticides and pharmaceuticals, banned in their country of origin are exported to countries in Asia and the Pacific where regulation is weak. Toxic and nuclear wastes are sent to whatever destination has officials compliant enough, or unaware enough, to receive them. Ships routinely discharge bilge and ballast waters in and around ports where they can get away with it. Although there are no precise estimates of trade in wastes, according to a recent study by Greenpeace some 3.2 million tons of wastes have been exported to 15 developing countries in the past two years.

18. International tourism and investment have proved to be powerful tools for stimulating economic growth in the Asian and Pacific region, and their importance is likely to remain, or even increase, over the time horizon of the strategy. While international tourism has become an important foreign exchange earner for a number of the countries in the region, it has also contributed to degradation of environmental resources. Without the development of ecologically sustainable tourism, tourism itself will destroy the very environments the tourists seek. More so than for almost any other industry, the ecological degradation caused by tourism would lead to economic degradation.

D. Institutional and social factors

19. Some of the basic causes of environmental degradation can also be traced back to institutional and social factors. The dichotomy between economic objectives and environmental policies maintained in the past, as well as the social attitude towards profligacy in the use of resources, are two examples.

1. Policies and institutions

20. A major cause of environmental degradation has been a lack of coherent sustainable development policies. The integrated nature of the environment and development challenge and issues contrasts sharply with the nature of institutions existing in the majority of the countries of the ESCAP region today. Most of these institutions, as stated by the World Commission on Environment and Development, tend to be independent, fragmented and working to relatively narrow mandates with closed decision-making processes. Those responsible for managing natural resources and the environment are separate from those responsible for managing the economy. Central agencies and major sectoral ministries play a key role in national decision-making. Through their policies and budgets, these agencies have contributed a great deal to the enhancement or degradation of the resource base and its capability to support human and economic growth. The mandates of these agencies have been the framing and implementation of investment, food, energy and other economic and social policies, and have not included any concern for sustaining the environmental resource capital on which these goals depend.

21. Those with such mandates were isolated in the form of environmental agencies or ministries which often had very little say in the new initiatives of economic trade, energy and agricultural policies or new tax measures, and came to know of their severe impact long after the effective decision had been taken. Furthermore, even if they were to learn of these policies earlier, most had no authority to secure any changes in the policy aspects that were detrimental to the environment.

22. A glaring example of that fact is the policy towards natural resources. In most countries of the ESCAP region, natural resources make as important a contribution to economic production as does man-made equipment. However, the national accounting systems in virtually all of the region's countries have ignored the value of natural resources in economic production. Thus, these accounting systems did not consider natural resources as being productive assets. This resulted in GNP (gross national product) statistics that overstated national income because they did not take account of the natural resource depletion.

23. A further result of this inadequacy in present national accounting systems is seriously distorted natural resource prices that give strong incentives for over-exploitation of resources rather than conservation. These price distortions bias economic planning and budgeting against environmental protection and rational use of resources. Policies towards trade and investment, fertilizer and pesticide subsidies, industry and technology have also ignored environmental trade-offs in the past.

24. Lack of interaction between government agencies and the independent sector on environmental matters has been another contributory factor to environmental degradation. Models of environmental control applied in most developing countries of the ESCAP region are based on the premise of "command and enforcement", which requires strong back-up by technical skill, manpower and finances. Shortage of these resources, coupled with standards having unrealistic phasing and time-frame, have led to widespread non-compliance. The situation could have been ameliorated by the promotion of understanding and cooperation between the independent sector, such as industry, and the Government. However, the fact that this has not happened is a contributing factor to the detriment of the environment.

25. In the developed world, non-governmental organizations act as watchdog agencies and as environmental communicators. They have also assisted Governments as initiators of innovative approaches. In the Asian and Pacific region, these organizations have failed to play these roles effectively, primarily owing to lack of resources and skill as well as of support by the government agencies.

2. Lack of public awareness and participation

26. Capital resources in the Asian and Pacific region are scarce compared with the vast human resources. Human capital, if utilized properly, can perform unbelievable feats in environmental enhancement. In contrast, through irresponsible behaviour it can also cause irreparable damage to the environment.

27. The lack of utilization of human capital has often contributed to the failure of vitally important environmental schemes. For example, tree plantations are encouraged and sometimes promoted by Governments as environmental measures, yet they often fail because of popular opposition: the wrong land is used, the wrong species are chosen, the wrong people reap the benefits, and sometimes trees are simply not available for planting. The examples could be multiplied, but the point is that people's knowledge and participation are essential prerequisites for environmentally sound and sustainable development. Whether it be a question of water supply, sanitation, afforestation, organic farming or small-scale irrigation, sustainability means that people's priorities must come first, people's energies and knowledge must be mobilized, and the people affected must be the people benefited.

28. While "people" of course includes women, women are systematically excluded from development planning, development projects and the major fruits of development. Yet it is women who raise the future generation, gather the fuel and water, maintain the household and its surroundings, arrange the gathering of fodder for livestock and, in a majority of cases, have responsibility for subsistence cropping (but rarely for cash cropping).

29. An important ingredient of the participatory process is to inspire and motivate people to act to improve the environment and desist from irresponsible behaviour. The role of the information media is crucial, but the "gloom and doom" offering by the media has probably done as much damage as good in recent years. Information has, by and large, been provided in ways which in most cases, instead of inspiring and motivating people to act to improve the environmental situation, have led to breeding a sense of futility and hopelessness.